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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,708

07/15/2003

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EXAMINER

PAN, YUWEN

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

09/11/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/618,708	<b>Applicant(s)</b> RAMOS, JOSE L.	
	<b>Examiner</b> YUWEN PAN	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/06/09 has been entered.

**DETAILED ACTION**

2. The Declaration filed on 07/06/09 under 37 CFR 1.131 is sufficient to overcome the U.S. Patent No. 7,079,815, Pozgay reference.

***Response to Arguments***

3. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

4.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 5, and 10 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Per claims 1 and 10, subject matter "wherein the drain of the first amplifier is

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connected to the gate of the second amplifier" is not described in the specification. Per claim 5, subject matter "wherein the drain of the second amplifier is connected to the gate of the third amplifier" is not described in the specification.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 8, 9, 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by (US005940031A, hereinafter Turlington).

Per claim 8, Turlington discloses a method for transmission and reception of signals using a transceiver that includes an antenna (see figure 9 and item 90), first and second switches, and an amplifier unit (see figure 4 and item 76, column 4 and lines 66-column 5 and lines 3), the method comprising: setting the first switch (see figure 6 and item 132) to a first position, the first position connecting a signal for transmission to the amplifier unit (see item 136 and part of item 76 as in figure 6); setting the second switch to a first position, the first position connecting the amplified signal for transmission to the antenna (see item 90); setting the second switch, after a predetermined amount of time, to a second position, the second position connection a signal received from the antenna to a receive path of the transceiver; and setting the first switch, after the predetermined amount of time, to a second position, the second position connecting the receive path to the amplifier unit (see figure 6, column 5 and lines 53-column 6 and lines 39).

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Per claim 9, Turlington further teaches further teaches that the second switch is in the second position the amplified signal from the receive path is connected to receiver circuitry (see figure 6, item 84, 106, and 142).

Per claim 12, Turlington discloses an apparatus comprising: an antenna (see figure 4 and item 90); an amplifier (see figure 4 and 6, item 76 and 148) connect to the antenna; a transmit path (item 86), connected to the amplifier (76), which provides a signal for amplification to the amplifier, and a receive path (84), connected to the amplifier (76), which receives an amplified signal from the amplifier (see column 4 and lines 36-47, column 4 lines 66-column 5 and lines 3).

Per claim 13, Thurlington further teaches the switch (142) with an output (b) connected to the amplifier (item 148 and 150), a first input connected to the received path (item 84 and 106) and a second input (a) connected to the transmit path (see figure 6).

Per claim 14, Thurlington further teaches a second switch (item 18), wherein the second switch (item 132) has first switch position (c) connecting a signal for transmission to the antenna, and a second switch position (b) connecting the receiving path to the antenna (see figure 6).

Per claim 15, Thurlington further teaches that a switch controller (see item 168) which controls the first and second switches to selectively connect the antenna to the amplifier for amplification of a received signal and the amplifier to the antenna for amplification of a signal for transmission (see column 5 and lines 52-67).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turlington et al Turlington in view Khorram (U.S. US007088969B2, hereinafter Khorram).

Per claim 1, Turlington discloses an apparatus (see figure 4 and 6), comprising: an antenna (see item 90, column 1 and lines 60-63); an amplifier unit connected to the antenna, a first switch that connects a transmit path of the antenna to the amplifier unit (see figure 6 and item 142); a second switch that connects a receive path of the antenna to the amplifier unit (see item 132); and a switch controller (see item 168) that is programmed to adjust positions of the first and second switches so that the amplifier unit is connected to the transmit or receive path of the antenna after a predetermined amount of time has elapsed since a prior adjustment (see column 5 and lines 52-67). Turlington does teaches the amplifier unit includes a first amplifier and second amplifier (see figure 6 and item 126, 128, 138 140, 148 152, 154 and 156).

Thurlington does not teach that the first amplifier and the second amplifier each include a source, a drain and a gate, respectively, wherein the gate of the first amplifier and the gate of the second amplifier are connected to a common gate connection, wherein the drain of the first amplifier and the drain of the second amplifier are connected to a common drain connection. Khorram teaches that an amplifier includes a plurality of transistors connected such that each amplifier has a common drain connection and a common gate connection (see figure 9, see abstract, column 10

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and lines 60-column 11 and lines 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the references to implement a linear, multiple stage power amplifier.

Same arguments apply, *mutatis mutandis*, to claim 10.

Per claim 2, Thurlington further teaches the switch (142) with an output (b) connected to the amplifier (item 148 and 150), a first input connected to the received path (item 84 and 106) and a second input (a) connected to the transmit path (see figure 6).

Per claim 3, Thurlington further teaches a second switch (item 18), wherein the second switch (item 132) has first switch position (c) connecting a signal for transmission to the antenna, and a second switch position (b) connecting the receiving path to the antenna (see figure 6).

Per claim 4, Thurlington further teaches that a switch controller (see item 168) which controls the first and second switches to selectively connect the antenna to the amplifier for amplification of a received signal and the amplifier to the antenna for amplification of a signal for transmission (see column 5 and lines 52-67).

Per claim 5, Khorram further teaches that a third amplifier includes a source, a drain, and a gate, wherein the gate of the third amplifier is connected to the common gate connection, wherein the drain of the drain amplifier is connected to the common drain connection (see figure 9, see abstract, column 10 and lines 60-column 11 and lines 25).

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Per claim 7, Thurlington further teaches that the amplifier are monolithic microwave integrated circuits (see abstract).

11. Claim 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thurlington and Khorram as applied to claim 1 above, and further in view of Saxler (US007030428B2, hereinafter Saxler).

Thurlington doesn't teach that the amplifier is fabricated in GaN-based material. Saxler teaches that High electron mobility transistors can be fabricated in the gallium nitride/aluminum gallium nitride (GaN/AlGaN) material (see column 1 and lines 63). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Saxler with Thurlington's device to have the potential to generate large amounts of PF power for the power amplifier.

12. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thurlington and in view of Saxler.

Thurlington does not teach that the amplifier unit is an AlGaN amplifier unit. Saxler teaches that High electron mobility transistors can be fabricated in the gallium nitride/aluminum gallium nitride (GaN/AlGaN) material (see column 1 and lines 63). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Saxler with Thurlington's device to have the potential to generate large amounts of PF power for the power amplifier.

### ***Conclusion***



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUWEN PAN whose telephone number is (571)272-7855. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuwen Pan/  
Primary Examiner, Art Unit 2618